

## **TROPICAL RAINFALL MEASURING MISSION**

**October 25, 1999 - October 31, 1999**

**DOY 298 - 304**

**Day of Mission 697 - 703**

### **TRMM MISSION OPERATIONS**

- TRMM is flying in the +X Forward direction as of 99-296, at 06:04:12z.
- The next Yaw maneuver is scheduled for November 9th (99-313)
- Delta-V maneuver #134 is scheduled for November 3rd (99-307) using the LBS thrusters.
- The Beta angle range for 99-305 to 311 is 20.5° to 8.2°.

### **TRMM SUBSYSTEM OPERATIONS**

#### **Attitude Control System (ACS)**

Delta-V maneuver #132 was successfully conducted on 99-300 at 14:39:26z and 15:25:12z, for durations of 43.0 and 29.750 seconds respectively, using the LBS thrusters. The off-modulation of the -Yaw thruster (#1) for burn 1 was 8.4% (91.6% on time). The off-modulation of the +Pitch thruster (#2) for burn 1 and 2 was 23.5% and 23.1% respectively (76.5% and 76.9% on time). The remaining fuel is 675.829 kg, and the final apogee and perigee height is 354.68 km x 347.62 km.

Delta-V maneuver #133 was successfully conducted on 99-303 at 15:54:26z and 16:40:09z, for durations of 33.0 and 24.0 seconds respectively, using the LBS thrusters. No off-modulation was observed for the -Yaw thruster (#1) due to the short duration of the burn. The off-modulation of the +Pitch thruster (#2) for burn 1 and 2 was 21.2% and 25.0% respectively (78.8% and 75.0% on time). The remaining fuel is 674.457 kg, and the final apogee and perigee height is 354.64 km x 347.79 km.

#### **Flight Data System (FDS)/Command & Data Handling (C&DH)**

The frequency standard continues to drift in the negative direction. The frequency standard offset is currently set to x'76F' with a current drift rate of -3.5  $\mu$ s/hr. The UTCF was adjusted by -878  $\mu$ s on 99-299 at 23:19:33z. The current UTCF value is 31535996.857167 sec with a current drift value of -412  $\mu$ s.

Q-Channel restarts occurred on 99-300 at 23:43:01z, 99-301 at 06:11:00z and 21:02:48z, 99-303 at 05:34:45z, and 99-304 at 16:19:12z.

#### **Reaction Control Subsystem (RCS)**

The RCS subsystem performed nominally during this period. See the ACS section for specific Delta-V information.

#### **Power Subsystem**

The Power subsystem is operating nominally.

### **Electrical Subsystem**

The Electrical subsystem operated nominally during this period.

### **Thermal Subsystem**

The Thermal subsystem operated nominally during this period.

### **Deployables Subsystem**

The Deployables subsystem performed nominally during this period.

### **RF/Communications Subsystem**

The RF/Communications subsystem performed nominally during this period.

## **SPACECRAFT INSTRUMENTS**

TRMM Leonid strategy for the upcoming storm is the same as the one used for the 1998 Leonid storm. The timeline for the instruments turn off/on during the storm has been completed. The instruments will be powered off approximately six hours prior to the peak and will be powered on at the Mission Director's discretion after the peak occurs. The peak is currently estimated at 99-322 at 02:53:00z

### **CERES**

CERES personnel are developing a plan for operating the instrument with the +15 V DAA anomaly. The CCR which involves creating and testing TSMs to monitor the CERES current is expected to be closed out by the end of the year. A walkthrough is being planned in December for the removal of CERES from load-shed plan and the test results.

### **LIS**

LIS performed nominally during this time period.

### **PR**

PR performed nominally during this time period. The list of Internal Calibration times over Australia in which PR was not radiating is listed below:

1999/298:03:17:23 - 03:21:26z  
1999/298:11:21:28 - 11:23:35z  
1999/299:10:09:41 - 10:11:52z  
1999/300:02:27:26 - 02:32:31z

1999/301:09:20:47 - 09:22:56z  
1999/302:01:39:05 - 01:42:10z  
1999/302:08:09:24 - 08:11:38z  
1999/303:08:31:56 - 08:34:03z  
1999/304:07:20:35 - 07:22:47z  
1999/304:23:40:03 - 23:43:12z

## **TMI**

TMI performed nominally during this time period.

## **VIRS**

VIRS performed nominally during this time period.

## **GROUND SYSTEM**

All Y2K rollover testing has been completed on string 3, and system cleanup is being completed. String 3 operational readiness testing will begin after the cleanup and is expected to last for approximately 1-2 weeks. String 2 remains the prime Mission Planning string.

The new ODB (version 11.2) has been completed on string 2 and is undergoing evaluation prior to making it operational on the other strings.

## **Event Reports**

No Event Reports were opened during this week.

## **Generic Late Acquisition Reports (for TTRs 19639)**

No generic late acquisitions occurred during this period.

## **New Anomaly**

No new Anomaly Reports were opened during this week.

## **Recurring Open Anomalies**

No recurring anomalies were seen during this period.

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